

Technical Interoperability and Matrix Center

AERAM

Advanced Extended Range Attack Missile



Summary

- Provides positive target identification and reduction of fratricide risk
- Expands battle space to defeat the threat at extended ranges
- Increases available time to make attack/ abort decisions
- Missile intelligent abort/destruct minimizes collateral damage
- Has a secondary mission of Surface-to-Surface

AERAM is a developmental program to demonstrate a cost-effective solution against subsonic Cruise Missiles (CMs), Unmanned Aerial Systems (UASs) and other airborne threats (primary mission).

The AERAM approach combines battle-proven, off-the-shelf components and an existing launch vehicle to provide an expanded and enhanced Cruise Missile Defense (CMD) and other mission capabilities.

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Current sensor systems are netted to provide surveillance of critical areas and sites such as the National Capital Region. Existing weapons systems are positioned to defeat incoming threats, but are limited due to range and launch restrictions designed to preclude fratricide. Symmetrical and asymmetrical threats could be directed toward U.S. assets such as nuclear power plants, dams, airports, refineries, power facilities, or areas of high population densities.

Increasing sensor detection range without developing the capacity to exploit that range increase with ground based missiles does not change the engagement equation from that which exists today. Command & Control (C2), CONOPS and missile development must adapt to match the increases expected in detection and tracking ability.

AERAM fulfills the need to engage cost-effectively at extended ranges, Cruise Missiles, UASs or other symmetrical and asymmetrical unmanned airborne threats, bearing conventional weapons or weapons of mass destruction (WMD), which present a current threat to the U.S. homeland and the U.S. military.

The existing sensor and C2 system can provide adequate information regarding the air picture. The missile provides an opportunity to engage a potential threat at ranges better suited to protect the homeland with the added advantages that the missile can be diverted should the decision be made to not attack.

AERAM is designed to provide positive control of the missile from rail to target, enabling the operator to receive targeting information directly from the missile seeker. This capability allows systems like AERAM to operate in a densely populated airspace consisting of commercial, private, and military aircraft. The missile employs the AIM 9X imaging seeker. The multipurpose missile includes a data link which is used to provide positive control and guidance of the missile to the target area at extended ranges. The missile also uses the data link to pass target imagery to the C2 center. As an air-breathing missile, the flight characteristics provide consistency and the ability to fly formation with the potential threat while attack/abort decisions are made.

AERAM is Joint Command, Control, Communications, Computer Battle Management Control (C4BMC) compatible and well-suited with existing sensor systems and Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) architectures. AERAM is also integrated with the Surface Launched Advanced Medium Range Air to Air Missile (SLAMRAAM) Launcher, Sentinel Radar and Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) and Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) System of Systems Architecture. AERAM can be launched from air and ground platforms (i.e., SLAMRAAM and Norwegian Advanced Surface to Air Missile (NASAM)) employing AIM-120 launch rails. In addition to missile development, the program will deliver a Captive Flight Test (CFT) unit to further missile design and to develop C2 procedures to fly a missile through commercial airspace and engage cruise missile targets at extended ranges.



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